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ABSTRACT OF THE DISCLOSURE

A slot antenna plate is placed on a second dielectric for radiating microwave into a chamber interior, the slot antenna plate being provided on a side of the second dielectric that faces the chamber interior. The slot antenna plate is made of conductor and includes slots for passing the microwave therethrough to the chamber interior. In this way, a plasma processing apparatus is provided generating plasma by microwave, the plasma processing apparatus capable of easily adjusting ion irradiation energy for a material to be processed to achieve uniform plasma processing for the material within the plane of the material.